

REMARKS

This Amendment is filed in response to the Office Action mailed on February 2, 2004. All objections and rejections are respectfully traversed.

Claims 1- 28 are in the case.

At paragraphs 2-18 claims 1-4, 7, 8, 13-16, 19, 23, 25-27 were rejected under 35 U.S.C. 102(b) as being anticipated by Chu, et al. U. S. Patent No. 6,346,954 issued Feb. 12, 2002 (hereinafter Chu).

The presently claimed invention, as set out in representative claim 1, comprises in part:

1. A system for reporting information related to predetermined storage volumes in a network including at least one storage appliance comprising:
 - a monitor process that *identifies volumes and retrieves statistical information with respect to the volumes*;
 - an interface adapted to *enable volumes to be associated with a group*; and
 - a reporting process that organizes and displays the statistical information with respect to the volumes associated with the group to interested parties.*

Chu discloses a method for managing a number of disk drives connected as a single RAID system. Chu's management system permits him to display available physical

drives in a tree frame, open an array frame, select a stripe size, select a subset of physical drives for an array frame, display unusable space on each physical drive, add logical drives to an array frame, adjust the size of logical drives, select a data distribution mode for each logical drive, monitor operating status of the data storage system, and display status of physical drives in a selected open array frame. (See Fig. 4 of Chu).

Applicant respectfully urges that Chu has no disclosure of Applicant's claimed novel method that *identifies volumes and retrieves statistical information with respect to the volumes . . . enable volumes to be associated with a group . . . and a reporting process that organizes and displays the statistical information with respect to the volumes associated with the group to interested parties .*

Applicant's *volumes* are identified in the Specification as comprising one or more RAID groups:

A filer is organized so that it includes one or more of storage "volumes" that comprise a cluster of physical storage disks, defining an overall logical arrangement of storage space. Currently available filer implementations can serve a large number of discrete volumes (for example 150, although this number is subject to increase). Each volume is generally associated with its own file system (WAFL for example). The disks within a volume/file system are typically organized as one or more groups of Redundant Array of Independent (or *Inexpensive*) Disks (RAID). RAID implementations enhance the reliability/integrity of data storage through the redundant writing of data "stripes" across a given number of physical disks in the RAID group, and the appropriate caching of parity information with respect to the striped data. In the example of a WAFL-based file system, a RAID 4 implementation is advantageously employed. This im-

plementation specifically entails the striping of data across a group of disks, and separate parity caching within a selected disk of the RAID group. (Specification page 2 lines 1 - 13)

Further, Applicant's *volumes* can be consolidated into arbitrary groups, as explained in the Specification:

This invention overcomes the disadvantages of the prior art by providing a system and method for enabling one or more storage volumes and associated devices on one or more storage appliances (filers) to be combined or consolidated into arbitrary groups so that statistical information related to performance, operational status and other usage-based parameters can be provide to interested parties associate with the group. The volumes can be drawn from different storage appliances, and their statistical information can be grouped/consolidated so as to allow administration and access by a common group of administrators or users.

According to a preferred embodiment, the grouping of volumes is controlled via a management station that is attached to the network containing the volumes. The management station includes a graphical user interface that allows the groups to be organized and displayed. A monitor process polls the volumes and devices for statistical information and returns it to the management station. There is a database that stores information about users in the group and various threshold values that are associated with the statistical information. The monitor process compares the thresholds to the monitored statistical information and determines whether an event has occurred. If an event has occurred, then the monitor process notifies an event process that determines whether there are listed any interested parties in the event, and, if so, how to notify the parties. In a typical form of notification, the event process can e-mail at least some of the interested parties in the group (e.g. users, administrators, managers) if an event has occurred. Similarly, the notification can take the form of an alarm, alert, telephone call or page to an interested party that is implemented through appropriate automated systems. There is also a command process that generates displays on the statistical information using, preferably a web-based format that is accessed by a browser on the management station's graphical user interface or on an interested party's client display.

(Specification page 3 line 14 - page 4 line 9)

That is, Applicant's file system: "is organized so that it includes one or more storage 'volumes' that comprise a cluster of physical storage disks", and a "cluster of physical storage disks" are arranged as: "The disks within a volume/file system are typically organized as one or more groups of Redundant Array of Independent (or *Inexpensive*) Disks (RAID)." (Specification page 2 lines 1-2, and lines 5-7, quoted hereinabove)

Further, Applicant's *volumes* may be *associated with a group of volumes* as explained in the Specification as: "This invention overcomes the disadvantages of the prior art by providing a system and method for enabling one or more storage volumes and associated devices on one or more storage appliances (filers) to be combined or consolidated into arbitrary groups so that statistical information related to performance, operational status and other usage-based parameters can be provide to interested parties associate with the group." (Specification page 3 lines 14-18, and quoted above)

Accordingly, Applicant claims a system having volumes supported by one or more RAID groups, and the volumes may be associated with groups of volumes.

In contrast with Chu's single RAID system, Applicant claims management of a much more complicated system which uses one or more groups of RAID systems to sup-

port a volume, and one or more volumes *may be associated with a group* of volumes.

That is, Chu has no disclosure of Applicant's claimed *volumes* and has no disclosure of Applicant's claimed *groups* of volumes

Accordingly, Applicant respectfully urges that Chu has no disclosure of Applicant's claimed novel method that *identifies volumes and retrieves statistical information with respect to the volumes . . . enable volumes to be associated with a group . . . and a reporting process that organizes and displays the statistical information with respect to the volumes associated with the group to interested parties* . That is, Chu is totally silent concerning Applicant's large scale constructs of *volumes* and *groups* which may comprise one or more RAID systems, as Chu's disclosure is simply restricted to one RAID system.

Therefore, Applicant respectfully urges that Chu is legally precluded from anticipating Applicant's claimed novel invention under 35 U. S. C. 102 because of the absence from Chu of Applicant's claimed novel method that *identifies volumes and retrieves statistical information with respect to the volumes . . . enable volumes to be associated with a group . . . and a reporting process that organizes and displays the statistical information with respect to the volumes associated with the group to interested parties*.

At paragraphs 19-31 of the Office Action claims 5-6, 9-12, 17-18, 22, 24, and 28 were rejected under 35 U.S.C. over Chu.

Applicant respectfully notes that claims 5-6, 9-12, 17-18, 22, 24, and 28 are dependent claims, and are dependent from independent claims believed to be in condition for allowance.

All independent claims are believed to be in condition for allowance.

All dependent claims are believed to be dependent from allowable independent claims, and therefore in condition for allowance.

Favorable action is respectfully solicited.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,



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